

WISCONSIN DEPARTMENT OF VETERANS AFFAIRS



Request for Architectural and Engineering Services

**Liquid Oxygen Re-piping to NFPA Standards
Wisconsin Veterans Home - King**

June 2014

DFD Project No. 14E4L

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Project Background and Purpose

The Wisconsin Veterans Home at King (Home) serves the long term care needs of 721 aged and disabled veterans and their eligible dependents. The Home was established in 1887 by the Grand Army of the Republic. The Home has grown and developed over the past 127 years.

The residents reside in 4 skilled nursing facilities. Two of these buildings are piped with liquid oxygen and oxygen med gas systems – Ainsworth and MacArthur Halls. Although the facility has not been cited, WDVA has been informed that the liquid oxygen piping systems at the MacArthur bulk tank and ventilation of the filling room at MacArthur Hall are out of compliance with NFPA codes. WDVA proposes this project to cure these issues.

Project Description

This project will install new medical gas oxygen piping from the existing piping system at Ainsworth Hall and connect it to the existing distribution system at MacArthur Hall including pipe sizing to provide for possible future needs. To keep costs low, piping will be run through the underground tunnel system linking the buildings. Fire response equipment is already installed throughout the tunnels and there is existing space where pipes will fit without causing any obstructions. Piping leading from the Ainsworth Hall bulk oxygen tank will remain in place and will continue to be used. The bulk oxygen tank at Ainsworth and its enclosure will need to be upgraded as the clearances to adjacent parking do not meet the code. Current distribution piping running through MacArthur Hall is in compliance and will remain in place to be connected with the new piping coming from the Ainsworth Hall location.

To continue to be used, work needs to be done on the portable container filling area in the basement of MacArthur Hall and the bulk tank enclosure area. The retired distribution piping leading directly from the bulk oxygen tank will be removed. The new MacArthur Hall bulk tank will serve the filling room needs at MacArthur exclusively. The issue, however, is the ventilation and piping system for the filling room. The area is currently out of compliance with NFPA 50 (2005) 3.3.133. This states that proper ventilation must be maintained in order to keep an oxygen enriched environment below 23.5 percent by volume. Design and construction on a new piping and ventilation system for the filling room is needed to become fully compliant with NFPA safety codes.

The portable container transfill areas in each of the skilled nursing facilities will also need to be brought up to the current NFPA 99 code as a necessary safety upgrade to protect the staff that is performing the transfilling function. There are siting and ventilation concerns at these locations.

Scope of Services

All services shall be in accordance with DSF's "[POLICY AND PROCEDURE MANUAL FOR ARCHITECTS/ENGINEERS & CONSULTANTS](#)" (Version in effect at the time of execution of the AE Professional Services Agreement.).

Scope and Deliverables:

Design and Construction Documents

- Develop 35% preliminary review documents as well as a design report and appendix including a complete cost estimate for approval by the State Building Commission to construct.
- Develop construction drawings and specifications for the piping of oxygen med gas from the Ainsworth Hall distribution system to the MacArthur Hall distribution system. Demolition of the retired oxygen med gas line from the bulk tank at MacArthur Hall to the MacArthur Hall distribution system. Proper ventilation of the MacArthur Hall filling room.
- Develop drawings and specifications for review at 35% and 100% design. Copies of each review set will be provided concurrently to DFD, USDVA and WDVA for their review and approval.

Construction Oversight

- The consulting team shall provide construction oversight and administration services for the Liquid Oxygen Re-piping project.

Consultant Qualifications

The consulting team should have relevant experience on multiple projects in the design and construction of liquid oxygen systems, medical gas systems, ventilation and electrical systems in a similar setting. A/E's should clarify this experience in their letter of interest by describing the project scope, size, construction value, date completed. A/E's should also indicate, where possible, Prime and sub-consultant team members, and the experience of sub-consultants with similar projects.

Proposed Project Schedule

AE Selection	July 2014
SBC Action	Oct 2014
Bid Opening	Jan 2015
Construction Start	Mar 2015
Substantial Completion	Jun 2015

Preliminary Project Budget

Construction	\$
Contingency	
AE	
DFD Fees	
Equipment	
Total Preliminary Project Budget	\$587,800

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